BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Milwaukee Water Works, Milwaukee County,
For Authority to Increase Water Rates — Docket No. 3720-WR-107

REBUTTAL TESTIMONY OF ERIC ROTHSTEIN
May 14, 2010

Q. Please state your name, occupation and business address.

A. My name is Eric Paul Rothstein. I am a Utility Management Consultant. My home office is located at 740 S. Federal St. #1101, Chicago IL, 60605.

Q. Please describe your educational and professional history.

A. I have a Bachelor's Degree from Ripon College, Ripon WI where I majored in Economics & History. I have a Master's Degree in Economics from the University of California, Davis and completed all coursework and qualifying examinations for a PhD in economics from that institution.

I am a Certified Public Accountant licensed by the State of Oregon. I worked for 10 years for the City of Austin, Texas – for 5 years in its Resource Management Department where I managed the Planning and Evaluation Division responsible for technical evaluations of energy and water conservation programs. In 1989, I became a Financial Manager for the City of Austin's Water and Wastewater Utility where I had responsibility for managing cost-of service ratemaking, capital financing and other financial analysis and reporting functions.

In 1994, I took a position with CH2M HILL – an international project delivery company. For CH2M HILL, I conducted water and wastewater rate studies, prepared engineer's feasibility studies for utility revenue bond issues and participated in a variety of

other utility management consulting engagements. After managing its Utility Management Solutions organization for CH2M HILL's Water Business Group, in March 2007, I left CH2M HILL to form my own utility management-consulting firm marketed under a "doing business as" arrangement with Debbie Galardi as the "Galardi Rothstein Group". I have attached a copy of my curriculum vitae to this testimony as Exhibit 2.14.

Q. What other qualifications and experience do you have that makes you qualified to offer testimony in this case?

A. I have been active in the water and wastewater industry's various professional societies including the American Water Works Association (AWWA), Water Environment Federation (WEF), International Water Association (IWA) and National Association of Clean Water Agencies (NACWA), and I have been involved in a number of Water Research Foundation (WRF - previously American Water Works Association Research Foundation AwwaRF) projects.

I have served on AWWA's Rates and Charges Sub-Committee that is responsible for promulgating the *Principles of Water Rates, Fees and Charges* (M1) manual of practice for almost 20 years. During my tenure with the Rates and Charges Committee, I chaired task forces that developed the *Water Rates Structures and Pricing* manual of practice that was a precursor manual to sections of the M1 manual dealing with rate design issues. Recently I chaired a task force that developed revisions to the M1 chapters dealing with outside-City and wholesale rates chapters that will be published in the next edition of the M1 manual of practice.

For the Water Research Foundation, I have been on research project teams that have addressed evaluation of Public Private Partnerships (PPP) options, asset management, capital project prioritization, and water conservation program evaluation. For NACWA, I have

prepared white papers on Financial Capability Assessment methods used to structure wastewater Consent Decrees. For WEF's Utility Management Committee I served as Task Force Chair for development of the *Financing and Charges for Wastewater Systems* manual of practice (No. 27) that promulgates standard practices for wastewater service ratemaking.

Q. Have the intervening wholesale customers authorized you to provide testimony on their behalf?

A. Yes.

Q. Have you reviewed the pre-filed direct testimony and exhibits submitted in this case, including the cost of service study (COSS) prepared by Public Service Commission staff?

A. Yes.

Q. What is the purpose of your testimony?

A. I will address issues that impact all three major phases of the rate development process – (1) revenue requirement determination, (2) cost allocation, and (3) rate design. With respect to the determination of revenue requirements, I will address the application of cost escalation factors, Milwaukee Water Works' (MWW) approaches to capital financing, and allowed rates of return. With respect to the cost allocation phase, I will address the determination of system demand factors and customer class demand factors. With respect to rate design, I will offer comments on the proposed economic development rates for the MWW system.

Q. Please discuss the application of cost escalation factors used in the development of the MWW revenue requirements.

A. MWW's Application to Increase Rates filed with the Public Service Commission (PSC) on September 1, 2009 provides an estimate of test year (2010) Operating Expenses at $50,881,729 (Exhibit 1.10, Attachment 10). Kathleen Butzlaff, PSC Audit Manager, offered

three adjustments to this value that produced a net increase of $433,634 so the PSC's proposed cost-of-service rates will support $51,315,363 in O&M expenses (Exhibit 12.1, Schedule 1). While the PSC's three adjustments are not problematic, the calculations leading to MWW's proposed $50,881,729 in operating expenses warrant further scrutiny.

In particular, the cost escalation factors used in MWW's calculations warrant further scrutiny. MWW's rate application generally uses cost escalation factors that are inconsistent with recent or projected (near-term) inflation rates. Most individual line items are increased by an apparent default escalation rate of 3% per annum. Selected line items, including purchased fuel and energy, are escalated using higher escalation factors. In contrast, recent economic conditions (which are projected to persist for several more years) are characterized by exceptionally low inflation rates. The national consumer price index (CPI) actually decreased between 2008 and 2009 (http://www.bls.gov/cpi.htm), with recent upticks being driven primarily from energy price escalation (that the MWW rate application takes into account separately) (Exhibit 2.15). Data for the Milwaukee-Racine WI CMSA indicate effectively no change in price levels between the second half of 2008 and second half of 2009 (http://www.bls.gov/ro5/cpimilw.htm) (Exhibit 2.16).

It is also noteworthy that the City of Milwaukee's labor agreements have not contemplated annual compensation increases similar to the applied 3 percent increase incorporated into proposed revenue requirements. As highlighted in Carrie Lewis's testimony*: "In 2010 and 2011, all employees (management, union, and non- represented) will be impacted by salary and benefit considerations. There will be no cost of living increases or "step" increases in pay ranges. There will be four unpaid furlough days in 2010, with the expectation that this policy will continue into 2011*." (D1.4, lines 11-14) The base salaries for non-management, non-represented employees were increased by only 1%

over pay period 13, 2009 wage rates for wages paid effective for pay period 14, 2009. (Summary of Wage and Benefit Changes (2007-2009), Non-Management /Non-Represented Employees, http://www.milwaukee.gov/der/Compensation) - and increases of only 1 to 2% have been provided since 2007 (Exhibit 2.17). These lower than default escalation rate labor expense increases are particularly important insofar as labor represents MWW's largest O&M expense.

Q. Are MWW's cost escalation factors reasonable?

A. No. The general cost escalation factors used by MWW are not reasonable, particularly in light of (1) recent and projected economic conditions, (2) the terms of the City's labor contracts, and (3) the fact that separate escalation factors are used to address line item expenses anticipated to be subject to extraordinary escalation. It is not reasonable to use historical default escalation factors when current economic conditions are atypical.

Test year O&M expenses include numerous line items escalated at rates even higher than the apparent 3 percent default escalation factor. These higher escalation rates are as follows:

Account No. 623 - Fuel or power purchased for production- 5 percent

Account No. 641 – Chemicals - 25 percent

Account 673 – Maintenance of transmission and distribution mains - 10 percent

Account 675 – Maintenance of Services - 10 percent

Account 677 – Maintenance of Hydrants - 10 percent

Account 926 - Employee Pension and Benefits - $1.1 million in addition to the default escalation.

Q. What is the impact of MWW's use of a default cost escalation factor that is unreasonable?

A. The use of an unreasonably high default cost escalation factor will increase the revenue requirement and increase the requested rate increase for all customer classes.

Q. Do you recommend an adjustment for the unreasonable cost escalation included in test year revenue requirements as submitted by MWW and retained by the PSC?

A. Yes. I would propose that a default escalation factor of 1.5 percent be applied for all line items for which the default escalation factor of 3 percent was used to calculate test year requirements. The 1.5 percent default escalation factor is not based upon a specific forecast of cost escalation, but rather reflects (1) the fact that there has been little to no marginal general cost escalation over the last year, (2) general projections predict a slow economic recovery, and (3) prudent financial planning suggests some provision for general cost inflation. The effect of this adjustment on wholesale rates, using as a baseline the cost-of-service calculations that employ actual financial information to allocate transmission and distribution plant in service costs and associated Contributions in Aid of Construction (CAIC) - as discussed in Pat Planton's testimony and presented in Exhibit 2.6, - would be to revise cost allocations and wholesale rate increases as shown in Exhibit 2.18.

This proposed adjustment is reasonable as it allows for some general cost escalation yet is responsive to prevailing economic conditions. The adjustment is also not proposed to apply to the specific line items for which MWW has proposed different (higher) escalation factors.

Q. Please discuss your concerns with MWW's approaches to capital financing.

A. According to the testimony of Kathleen Butzlaff, MWW's capital structure for the test year is "90.33 percent municipal equity and 9.67 percent long-term debt." (D12.1, lines 14-15). The result is a debt/equity ratio for MWW that is exceptionally low, and atypical relative to most other major Wisconsin water utilities and relative to most major metropolitan water

utilities. This is demonstrated by Exhibit 2.19 that shows Milwaukee's debt/equity ratio compared to other large Wisconsin water utilities. Of the top 15 Class AB water utilities ranked by value of rate base, two thirds have debt/equity ratios greater than 50%, and no other of these utilities has a debt/equity ratio below 38%.

MWW's atypical debt/equity ratio reflects MWW's primary use of equity financing of capital (and contributions in aid of construction CIAC) to develop its rate base, eschewing the use of debt. As noted in Carrie Lewis's testimony: "*Considerations in selecting the requested rate of return included that the rate of return be no greater than the PSCW benchmark of 7.4 percent*, that the increase would generate sufficient revenue to continue utility operations at existing service levels and also begin to replenish cash reserves, that the rates in effect would maintain MWW's competitive position both locally and nationally, and that the rate increase to customers would not be overly burdensome."* (D1.6, lines 16-21). Ms. Lewis is quoted in the Milwaukee Journal Sentinel as saying: "*We have been using our retained earnings, our saved money, and using our savings account to cover the expenses of running the utility*" (Exhibit 2.20).

MWW's wholesale customers have a shared interest in ensuring that MWW has adequate funding to cover operating expenses, finance needed capital including renewal and replacements, and carry adequate reserves. Yet, MWW's approach to accomplishing these objectives is inequitable and inefficient for all MWW ratepayers – and also fails in the objective of not imposing rates that would be "overly burdensome."

Q. Why is MWW's capital structure inequitable and inefficient?

A. MWW's predominant use of cash financing requires current ratepayers to cash finance long-lived assets, resulting in intergenerational inequities. Ratepayers are asked to pay up front for infrastructure that will convey benefits for 2 or more generations.

In general, a relatively balanced mixture of debt and cash financing is preferred and certainly more equitable. A more balanced capital structure provides for utilities to pay for annual capital renewal and reinvestment primarily by using cash, and to use debt to spread the costs of major, relatively infrequent capital investments (for expansions, upgrades, etc.) over debt repayment periods. In so doing, annual capital-related revenue requirements distribute capital costs more smoothly across time.

MWW's over-reliance on cash financing suggests that adjustments should be considered to the allowed rates of return to recognize MWW's capital structure imbalance. MWW's over-reliance on cash financing also raises concerns about whether MWW is investing sufficiently in the plant.

Q. Are you concerned that MWW is under-investing in its plant?

A. Yes, I am particularly concerned that MWW is under-investing in its transmission and distribution system. Exhibit 2.21 is MWW's Historical Water Main Replacement History, 1998-2009. This information was derived from MWW's annual reports and shows the amount of water main added and retired since 1997. It then calculates the percentage of water main in the system replaced and imputes a renewal period based this replacement rate. In simple terms, a 50-year renewal period is calculated if 2 percent of water mains are replaced each year. A 100-year renewal period is calculated if only 1 percent of water mains are replaced per year. Exhibit 2.21 shows that MWW has, on average, replaced approximately 0.56 percent of the number of water main linear feet in the MWW system each year. This results in a calculated renewal period of 177 years.

In contrast, the PSC's depreciation rate for transmission and distribution mains is 1.3% as shown in Schedule 5 of the PSC Staff Revenue Requirement Exhibit. (Exhibit 12.2,

Schedule 5) A 1.3% depreciation rate indicates a useful life of approximately 77 years rather than the 177 years that MWW's reinvestment pattern over the last decade would suggest.

This significant disparity between depreciated life and actual renewal period raises concerns about MWW's investment in the replacement of its transmission and distribution system. While this under-investment is not atypical of utilities throughout Wisconsin, or nationally for that matter, it is cause for acute concern. At the national level, these concerns have been raised in such studies as the Congressional Budget Office's report, *Future Investment in Drinking Water and Wastewater Infrastructure* (November 2002), USEPA's *Clean Water and Drinking Water Infrastructure Gap Analysis* (September 2002), and the Water Infrastructure Network's (WIN's) *Clean and Safe Water for the 21st Century* – each of which call for reinvestment in drinking water infrastructure and more effective asset management in the future.

For test year 2010, MWW's rate application indicates that it will add approximately $20.6 million in utility (equity) financed plant in 2010, with approximately $6 million for transmission and distribution mains (Account No 343) (Exhibit 1.10, Attachment 11). This proposed expenditure continues MWW's historical underinvestment in its transmission and distribution system assets.

Q. What is the impact of MWW's underinvestment in the replacement of its transmission and distribution system?

A. MWW's underinvestment in the replacement of its transmission and distribution increases operation and maintenance costs related to the transmission and distribution system. Pat Planton's testimony will address one symptom – unduly high amounts of lost and unaccounted for water that require MWW to spend operating expenses for water produced but not delivered to MWW customers. In addition, MWW's rate application indicates that

almost 1/5th of Operating Expenses are associated with Maintenance of Transmission and Distribution Mains (Account 673 - $6.6 million) and Maintenance of Services (Account 675 - $3.3 million) (Exhibit 1.10, Attachment 10). These proposed expenditures appear to reflect over-reliance on maintenance activities that are expensed on an annual basis and/or expensing water main improvements that may be capitalized.

Q. Is MWW's approach to the funding of its transmission and distribution system maintenance and replacement unreasonable?

A. Yes. MWW's approach to funding transmission and distribution system maintenance and replacement is unreasonable and discriminatory to current ratepayers relative to future system users. It also has failed to provide MWW with adequate resources to effectively manage its capital assets consistent with utility best practices. By cash financing its underinvestment in transmission and distribution asset renewal and replacement, MWW is perpetuating and arguably exacerbating intergenerational inequities. Its limited investment in long-lived assets is not spread over the useful lives of those assets. Perhaps of greater concern, MWW's failure to adequately reinvest in infrastructure portends large, unexpected costs in the future. Asset management is about minimizing the total life cycle costs of assets at acceptable levels of risk. Inadequate reinvestment in system assets will impose higher costs than necessary and/or degrade service levels.

However, MWW's historically skewed approach to funding its transmission and distribution system presents a unique opportunity to (1) mitigate proposed rate increases, (2) fund needed reinvestment in system assets, and (3) improve the balance of equity and debt in MWW's capital structure. For a limited time period, MWW may use debt to fund needed capital renewal and replacements with limited impacts on overall system revenue requirements. By using debt more strategically, rather than as an apparent last resort, MWW

could avoid seeking exceptionally large single year rate adjustments and smooth the pattern of future rate increases.

Q. What relief is the wholesale customer group seeking from the Commission related to MWW's approach to the funding of its transmission and distribution system?

A. The wholesale customers are vitally interested in both ensuring that MWW is able to effectively and appropriately reinvest in its built infrastructure, and in seeking to ensure intergenerational equity by spreading to the extent practicable the costs of infrastructure investments over their useful lives. Accordingly, the wholesale customers would support an expansion of MWW's renewal and replacement programs, particularly relating to the transmission mains from which it derives service, where such programs are debt-financed for the foreseeable future.

In order to accomplish this, I would propose that some of the $6.6 million of O&M expenses for Maintenance of Transmission and Distribution Mains be capitalized and subject to debt financing. While I am not in a position to assert the full extent to which these costs could be capitalized, I propose that a conservative adjustment of roughly 15% of these costs or $1 million be made whereby these costs are removed from O&M expenses, re-classified, and subject to debt financing.

The result is that the wholesale customers would actually be arguing for more rather than less expenditure by MWW reflecting the shared interest in effective asset management of the MWW system (but also arguing for debt funding so costs are paid by benefitting users over an extended time period).

Q. Does MWW's atypical capital structure have implications on determination of an appropriate rate of return?

A. Yes. MWW's existing capital structure has resulted from limited use of debt to finance capital expenditures. As primarily long-term customers, the wholesale communities have shared proportionately in the burden of MWW's cash financing of its utility plant in service. Wholesale (and retail) customers have paid for MWW to accumulate so much equity which, in past years, was not so problematic because the allowed returns on equity meant that the cost of cash financing were lower than the costs of issuing debt to raise capital.

Now, MWW has requested an overall 5.21 percent rate of return based on differential rates of return to be earned from wholesale customers (6.50 percent) and retail customers (5.0 percent). The PSC's Kathleen Butzlaff has testified that given MWW's request, MWW's estimated cost of debt is 4.32 percent and its return on municipal equity is 5.30 percent (D12.2, line 15). As a result, the historic relationship between cash financing and debt financing is reversed and cash financing would cost more than issuing debt (yet MWW does not propose to issue more debt). The resulting absolute dollar value of MWW's return on equity under these circumstances will be over $14.2 million, an increase of over $6 million in return on equity from that allowed under the PSC's rate of return approved in 2007.

Q. Is MWW's proposed return on equity unreasonable and discriminatory to the wholesale customers?

A. Yes. It is unreasonable and discriminatory to have required near complete cash financing of long-lived infrastructure – violating principles of intergenerational equity – and at the same time apply typical rates of return. MWW's customers, both wholesale and retail, have paid rates that supported MWW's accrual of a disproportionately high amount of equity relative to debt. To now impose typical, market-based rates of return to the resulting skewed rate base perpetuates and exacerbates the misalignment of capital funding.

Higher allowed rates of returns on equity will generate unduly high absolute dollar amounts of return when accrued system equity is disproportionately high. Moreover, increasing the allowed rate of return as proposed will mean that raising capital through equity will cost more than issuing debt, while MWW's plan of capital finance calls for continued use of equity rather than debt. MWW customers, both wholesale and retail, would be required to pay higher costs for capital to further skew MWWs capital structure while lower cost debt is available.

The proposed return on equity would also provide an inappropriate windfall to the City of Milwaukee at the expense of MWW ratepayers generally and, most egregiously, MWW's outside-City retail and wholesale customers specifically. To the extent that a portion of these returns are transferred to the City's General Fund – $3 million is proposed for 2010 per the City Council's resolution (Exhibit 1.7), inside-City retail customers benefit in the form of lower taxes or additional general government services. However, although wholesale (and outside-City) customers have paid proportionately over time to establish MWW's imbalanced capital structure, they are excluded from any benefits to the City's General Fund.

In order to treat MWW's customers fairly and to encourage an equitable and efficient capital structure, and because of MWWs atypical capital structure, it is my opinion that the return on equity should be adjusted that it would be unreasonable not to make such an adjustment.

Q. Is the objection to the City's requested rate of return solely because of the City's planned $3 million General Fund transfer?

A. Wholesale customers may be reasonably concerned by the City's siphoning funds away from MWW to support the City's General Fund as noted in James Wojcehowicz's testimony.

However, in my view, the objection does not in and of itself derive from the fund transfer. Rather, it is objectionable because funds are to be diverted while at the same time MWW is not planning to adequately invest in its system. MWW should ensure that its earned returns enable it to adequately reinvest in its system before funds are transferred. This principle is at least echoed in Wisconsin statutes, section 196.09(6)(a), related to utility depreciation that states:

> *If the public utility is a corporation, the corporation may not pay any dividend out of earnings for any fiscal period subsequent to the commission's certification or order, or carry any portion of its earnings to its surplus account, except out of earnings remaining after crediting its depreciation reserve in accordance with the rates established by the commission, except as provided under par. (b).*

Q. What adjustment would you propose to address MWW's atypical capital structure?

A. An adjustment of MWW's allowed rate of return is the near-term relief that should be granted for purposes of this rate case. In addition, the Commission should encourage revisions to MWW's historical approach to capital financing to correct the current debt/equity imbalance and improve intergenerational equity by spreading the costs of capital investments over their useful lives.

Q. How should the allowed rate of return be adjusted?

A. A relatively simple calculation may be used to impute a rate of return that provides for an appropriate return on equity, in absolute dollar terms, while recognizing MWW's atypical capital structure.

Specifically, if one were to assume that MWW's capital structure was 50 percent equity and 50 percent debt, and one adopts (without conceding the merit of) MWW's and

PSC's proposed 5.21 percent unadjusted rate of return, $7.7 million in absolute dollars would be allowed as return on equity. [$296,111,539 NIRB * 50% Equity *.0521 Composite Return on Equity] One may then impute an allowed rate of return of 3.01% given MWW's actual 90 percent equity / 10 percent capital structure. [$7.7 million Return on Equity + $1.2 million return on debt = $8.9 million /$296 million NIRB = 3.01% Rate of Return].

This proposed approach would provide MWW with a return on equity in absolute dollar terms that is consistent with that which would be granted other major Wisconsin utilities that have more appropriately balanced capital structures. It would also provide MWW adequate returns while not inappropriately rewarding it for its imbalanced capital structure. It would also be more consistent with historical rates of return allowed for MWW.

Q. How can an allowed rate of return based on an assumed capital structure be reasonable?

A. The proposed use of an assumed capital structure is recognized by the AWWA's (M1) manual of practice, *Principles of Water Rates, Fees and Charges*, as a method to determine a fair rate of return in situations where the capital structure of a water utility has excessive amounts of equity. AWWA's (M1) manual states: *"Sometimes the actual capital structure of a water utility may have excessive amounts of debt or equity. In such cases, an alternative capital structure is used to determine a fair rate of return. ...Regulatory agencies have imputed a hypothetical capital structure based on an examination of similar companies or industries."* (p.41).

As Exhibit 2.19 demonstrates, MWW's capital structure is clearly atypical and reflects "excessive amounts of equity" such that use of an alternative capital structure is appropriate.

Q. Is the assumed 50 percent equity, 50 percent debt capital structure reasonable?

A. The 50 percent debt, 50 percent equity structure used to impute my proposed rate of return is clearly reasonable. It is the capital structure employed in the numerical example used in the AWWA M1 manual. The PSC reference manual also states: "*A municipal capital structure is generally considered to be favorable if it has at least 50 percent earning equity and less than 50 percent debt*" (Public Service Commission's Water Utility Reference Manual, Chapter VI, "Other Balance Sheet Issues", p. 1 of 5). Notably, some of the larger Wisconsin utilities (Green Bay, Racine, Madison) are even more debt-burdened as are numerous major metropolitan water utilities across the country.

Q. Do you propose any other adjustments when imputing your proposed rate of return?

A. Yes. As noted, MWW's proposed revenue requirements reflect continuing under-investment in asset renewal and rehabilitation while preserving its imbalanced capital structure. As a result, I propose adjusting the cost of debt to facilitate increasing MWW's bonded indebtedness. Specifically, I have assumed that MWW will incur an additional $20 million in 30-year revenue bonded indebtedness to fund additional asset renewal and rehabilitation, occasioning additional debt service requirements of approximately $1.3 million per annum (assuming new 30-year revenue bond debt is issued at 5 percent interest rate).

Q. What is the net effect on allowed rate of return of your proposed adjustments?

A. My proposed adjustments would result in an allowed rate of return of 3.5%, where the increase from 3.01% to 3.5% results from the additional cost of debt associated with the assumed $20 million revenue bond issue. This rate of return would result in a total return of $10.3 million ($3.5% * $296 million = $10.3 million) which would support roughly a doubling of MWW's debt service requirements to about $2.5 million, and still provide a return on equity of about $7.7 million – an amount consistent with the MWW/PSC proposed 5.21% rate of return that would be allowed for a typical utility with a balanced capital

structure. Even if MWW were to effect their proposed $3 million per annum transfer to the City's General Fund, this approach to capital financing could still reduce near-term rate increases while also enabling MWW to more appropriately reinvest in its system. The significant effect of the adjustment of the composite rate of return to 3.5% is shown in Exhibit 2.22. All MWW ratepayers benefit from this adjustment, which at the same time provides for increased funding to MWW to effect needed system reinvestment.

Q. Does your use of the proposed composite 5.21 percent rate of return in your adjustment calculation mean that the higher rate of return for wholesale customers is acceptable?

A. The concept of differential rates of return for wholesale vs. retail service is well established in water ratemaking. The forthcoming revisions to the AWWA M1 manual of practice will reinforce this principle. In general the return differential is intended to reflect, in part, the higher risks associated with providing wholesale service relative to retail service. Wholesale customers may leave the system while retail customers are generally captive. In the event that regulatory requirements are violated, liabilities are assigned to system owners, not wholesale customers. In Carrie Lewis's testimony (D1.7, lines 1-11), these same principles and guidance provided in the AWWA manual of practice are cited, and reference is given to the precedent established by the Oak Creek case in which a differing rate of return was approved for wholesale vs. retail service. In principle, I concur that requiring a higher rate of return from MWW's wholesale customers is appropriate.

However, the extent of the rate differential should reflect the nature of the risks imposed by MWWs wholesale customers. Unfortunately, MWW's basic argument regarding the degree of rate differential seems scant and less based on an assessment of relative risk and more based on whether or not the associated sum of money is sufficiently large to distort the extent to which retail customer rates will remain based on costs of service. Carrie Lewis

states in her testimony that: *"In fact, the PSCW revenue requirement determined that the "difference between a 5.00 percent and a 6.50 percent ROR for wholesale customers provides for an additional $ 653,385 in revenue", clearly not a subsidy to the retail customers."* (D1.7, lines 18-20) The fact that approximately $650,000 is not a significant share of an $85 million revenue requirement is not a basis for charging this amount—which is a significant amount of money for the wholesale customers, representing over 5% of the revenue to be recovered from this class.

Further, it seems worth noting that while the Oak Creek and Racine cases may offer precedent for the concept of differential returns, the risk profiles that these utilities' wholesale customers impose are different from those faced by MWW. For example, Oak Creek's wholesale customers represent a substantially larger share of the Oak Creek system's revenue base. And, while the notion that risks are imposed by wholesale customers' option to leave the system is true in concept, it is noteworthy that the majority of MWW's wholesale customer base has been exceptionally stable, with service arrangements being in place for multiple generations in some cases (e.g., Wauwatosa, West Allis).

Q. Does this conclude your testimony related to revenue requirements?

A. Yes.

Q. Please explain what has changed in the development of the demand factors used in the PSC's cost of service study.

A. There are two types of demand factors used in the COSS. System demand factors that reflect the characteristics of system production and customer class demand factors that characterize class usage patterns. For both sets of demand factors, the PSC staff's COSS has diverged relatively dramatically from past practice. For the 2010 rate case, system demand factors were calculated using demand data provided by MWW. The PSC staff calculated 4-year

averages for base, max-day and max-hour factors for purposes of cost allocation in the 2010 rate case. In contrast, as Andrew Behm's testimony states, "*[f]or the past several rate cases, Commission staff did not directly estimate maximum day or hour consumption. Instead it continued to use maximum day and maximum hour ratios very close to those observed during the drought of 1988. During that year the maximum day consumption was twice the average, and the maximum hour consumption was triple the average.*" (D12.9, lines 8-13.)

The result of this methodology change is a relatively dramatic change in allocations. For the 2007 rate case, system demand factors for facilities allocated to base and max-day demand produced a 52 percent to 48 percent distribution; allocations to base and max-hour components were 35 percent base, 65 percent max-hour. In contrast, the 2010 demand factors have a substantially higher share of costs allocated to base demand. The PSC's calculations yield a 71.43 percent to 28.57 percent distribution of facilities allocated to base and max-day demand, and a 58.82 percent base to 41.18 percent max-hour for facilities allocated to base and max-hour demands. These changes produce significant changes in allocated costs between customer classes.

Similarly, with respect to customer class demand factors, Andrew Behm stated that:

> *I believe the retail max hour extra-capacity ratios used in the previous rate case do not accurately describe MWW's customer classes in this case. The customer base has diminished to the point that customers are not likely to require the large maximum flows they did in the late 1980s or early 1990s. This is essentially the same reasoning applied earlier in calculating the system demand ratios. MWW could not provide maximum hourly consumption data by class, so I reviewed the retail max hour extra-capacity ratios used in the most recent rate cases of several other large utilities*

providing wholesale service in Wisconsin. I reviewed recent rate cases for Racine, Oak Creek, Kenosha, Menasha, Appleton, Sheboygan, and Beloit. Based on the values used in these cases, I chose reasonable retail max hour ratios. As before, I used the same extra-capacity ratios for retail customers inside and outside of the City of Milwaukee.

(D.12.17, lines 1-11.)

With regard to both system demand factors and class demand factors, the judgment of PSC staff occasioned a methodological change.

Q. Are these methodological changes merited?

A. As a general proposition, they are. It is preferable for cost of service analyses to be conducted using actual and recent data on both system and customer class demands. Further, the use of 4-year averages for the development of system demand factors avoids swings in allocation factors if a single, potentially anomalous, year was referenced in the associated calculations. In this respect, the development of system demand factors reflects an improvement in PSC's methodological approach.

Q. Do you have any concerns with the PSC's adoption of this improved approach?

A. I have two concerns. First, as to methodology, it is worth noting that the simplified system demand factor structure used by PSC in both 2007 and 2010 could be enhanced. As Miller Coors' expert witness Michael Gorman points out, there are some facilities that should be allocated to base, max-day and max-hour components. Mr.Gorman's testimony states:

> Q. Why is it appropriate to allocate base transmission mains costs to base and extra capacity including max day and max hour categories?
>
> A. Transmission mains are designed to meet average flow conditions and peak demand conditions on the system. Because they are

> designed for base and peak demands, transmission mains costs should be allocated based on customers' contributions to the system base and peak demand which occurs at the max hour demand. By not allocating any transmission costs to the max hour demand, the full peak demand capacity components of transmission costs are not equitably allocated between the MWW customers that contribute to peak hour demands on the system.

(D 13.11, lines 6 -15).

Mr. Gorman is correct in this regard, though it is worth noting that allocations to both max hour and max day demands will not alter the allocations to base demand. The appropriate revision is suggested in the AWWA M1 manual which states: "*facilities designed to meet maximum hour requirements, such as distribution mains, inherently meet both maximum day and maximum hour requirements and may appropriately be allocated to the base, maximum day extra capacity, and maximum hour (in excess of maximum day) extra capacity cost components.*" (p. 52). Applying the allocation calculations illustrated therein, the PSC's cost allocation factors would be revised from: base allocated 58.82 percent and max-hour allocated 41.18%; to base allocated 58.82 percent, maximum-day allocated 23.35 percent and maximum hour allocated 17.65 percent. I suggest that the PSC continue the enhancement of their calculations of system demand factors and resultant cost allocation factors by fully adopting the AWWA M1 calculation methodology.

Q. In addition to methodological issues, are there policy issues that arise from the PSC staff's adoption of its new approaches to demand factors?

A. Yes. While the PSC staff's revisions represent improvements, they impose significant changes in revenue responsibilities. It is important to recognize that the factors used in 2007

were based on judgments about MWW's capacity utilization, just as the PSC's revised factors represent judgments informed by more recent data. While the PSC's 2010 revisions are based on a tenuous, yet solidifying, foundation, they still represent the exercise of PSC judgment. At the same time, a fundamental utility ratemaking principle is to mitigate dramatic changes in cost allocations and rates through transitioning periods. The testimony of the PSC's David Prochaska speaks to this principle:

> *The general approach used in this proceeding is to use the cost of service study as a starting point to design rates to match the cost of providing service. Another factor to consider is continuity with present rates. As shown on Schedules 11 and 11A of Exhibit 12.2, the cost of service study results show a relatively wide range of increases in the charges to the various customer classes. I am recommending rates that move substantially in the direction of the cost of service. I also recommend that any further movement necessary in that direction be made in subsequent rate proceedings. In moving toward the cost of service in recommended rates, I have done some tempering of the rate increases to customer classes within some of the classifications of service that, according to the cost of service study, should receive the largest percentage increases. Where tempering is done, the resulting revenue difference is recovered through rates to the remaining customer classes within the classification*.

(D12.26, lines 6-17.)

A tempering of the cost allocation impacts that arise from changing the methodologies for developing the demand factors used in the 2010 COSS should be considered. This could be accomplished by staged movement to the calculated

system demand factors used in the PSC's COSS similar to what is shown in Exhibit 2.9 where the system demand factors reflect some but not entire movement from the 2007 factors to those calculated for the 2010 COSS.

Q. Does this conclude your testimony related to cost allocations?

A. Yes.

Q. Please explain your concerns with the proposed economic development rate?

A. Given conditions of excess capacity in the MWW system and the economic development challenges faced throughout MWWs service area, an economic development rate has merit. To the extent that even lower water rates may support community initiatives to attract new businesses or expand existing concerns, while still recovering the variable costs of production from expanded use of available capacity, an unambiguous benefit may be realized. This concept is outlined in the AWWA M1 manual of practice that specifically highlights the potential for benefit from utilization of excess capacity.

However, the proposed economic development rate should not be restricted to the City of Milwaukee and unavailable to customers served by wholesale users. In either case, whether the added usage originates in the City of Milwaukee or within wholesale customer communities, the MWW system's excess capacity is used. Since the existence of excess capacity is the principle reason why an economic development rate is sensible for the MWW system, there is no sustainable reason not to enable new components of wholesale customers' use from being similarly incentivized through an economic development rate.

Moreover, to exclude wholesale customer usage from eligibility for the economic development rate is patently unfair. Wholesale customers' past rate payments have helped pay (largely on a cash-financed basis as noted earlier) for the development of the system's available capacity. The PSC's COSS does not exclude wholesale customers from current

costs associated with this excess capacity. And, MWW and PSC have suggested that wholesale customers impose higher risks to MWW than retail customers yet it is largely retail customers' departures and downsizing that have precipitated MWW's current excess capacity situation. Wholesale customers have been required to share all the costs and risks of development of MWW's capacity and should therefore be eligible to reap economic development benefits made available by this capacity.

Q. Can you summarize the position of the wholesale customers with regard to the COSS?

A. Yes. The wholesale customers have concerns that fall into three major categories. First, the overall revenue requirements developed for MWW are unnecessarily high. Second, there are a number of areas where costs have been inappropriately allocated to the detriment of the wholesale customers. Third, there are a number of policy judgments that unduly disadvantage MWW's wholesale customers.

In assessing the implications of these concerns, it is important to recognize that the baseline COSS results should reflect the allocation of transmission and distribution costs on the basis of the actual value of these assets as discussed in Pat Planton's testimony and affirmed by Andrew Behm's testimony. These baseline COSS results significantly increase costs allocated to MWW's retail customers and benefit MWW's wholesale customers but are simply a correction of an inaccuracy in the earlier study.

Going beyond this analytical correction, MWW's wholesale customers are concerned that the revenue requirements developed for MWW fail to recognize the implications of current economic conditions for future cost escalation and the significant implications of MWW's atypical capital structure. MWW has the opportunity, through strategic use of debt, to better balance its capital structure and obtain critical funding for system renewal and reinvestments – all without imposing the enormous rate increases that are requested.

The wholesale customers also are concerned that a number of cost allocation decisions inappropriately assign costs to wholesale customers. These misallocations relate to MWW's relatively high unaccounted for water volumes, and to dramatic revisions in allocations of fire protection costs.

Finally, MWW's wholesale customers are concerned about policy decisions that seem to discount the shared interests of the wholesale customer communities. The wholesale customer have participated in the development of the MWW system and deserve to be afforded the limited benefits of its current excess capacity situation.

By employing more strategic approaches to capital financing, correcting misallocations of costs to wholesale customers, and tempering some of the impacts of major shifts in cost allocation procedures, wholesale customer rate increases may be reasonably reduced to approximately 5 percent (on a weighted average basis) as illustrated in Exhibits 2.23 and 2.24.

Q. Are the opinions you express in this testimony to a reasonable degree of professional certainty?

A. Yes.

Q. Does this conclude your pre-filed testimony?

A. Yes.

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